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HANDBOOK

FOR

TRAINING CENTER ATHENS, GEORGIA

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

UNITED STATES
DEPARTMENT OF AGRICULTURE
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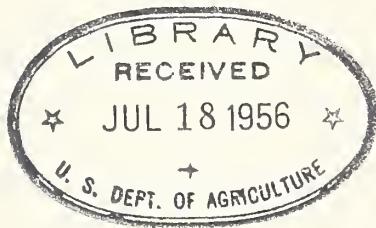
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H A N D B O O K
F O R
P R O F E S S I O N A L E M P L O Y E E S

T R A I N I N G O U T L I N E

A T H E N S T R A I N I N G C E N T E R

a t h e n s , G e o r g i a



UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

TO PROFESSIONAL EMPLOYEES OF THE SOIL CONSERVATION SERVICE:

Some of you are just entering the field of soil conservation. Some have recently been promoted to the professional ranks. The job ahead is an important one. Conservation of our soil is one of the most important programs in the world today. As scientists in the professional field of soil conservation you will play an important role in this program.

Soil conservation is a science which requires professional skill. A professional in this field must have a thorough understanding of the basic relationships of soil, water, air, and plant and animal life. He must also recognize and employ the techniques of working with people, which will result in the rapid application of a sound conservation program on the land. The planning, applying, and maintaining of a soil conservation program is a scientific process in which both farmers and professional soil conservationists have an important part.

Experience is still the best teacher. The classroom and field laboratory also have an important place in training one for a professional career in soil conservation. The Training Center is maintained so that you may receive basic information on land use, soil and water conservation, and techniques of assisting farmers develop and apply a conservation program on their land. That information has been compiled from years of experience and research.

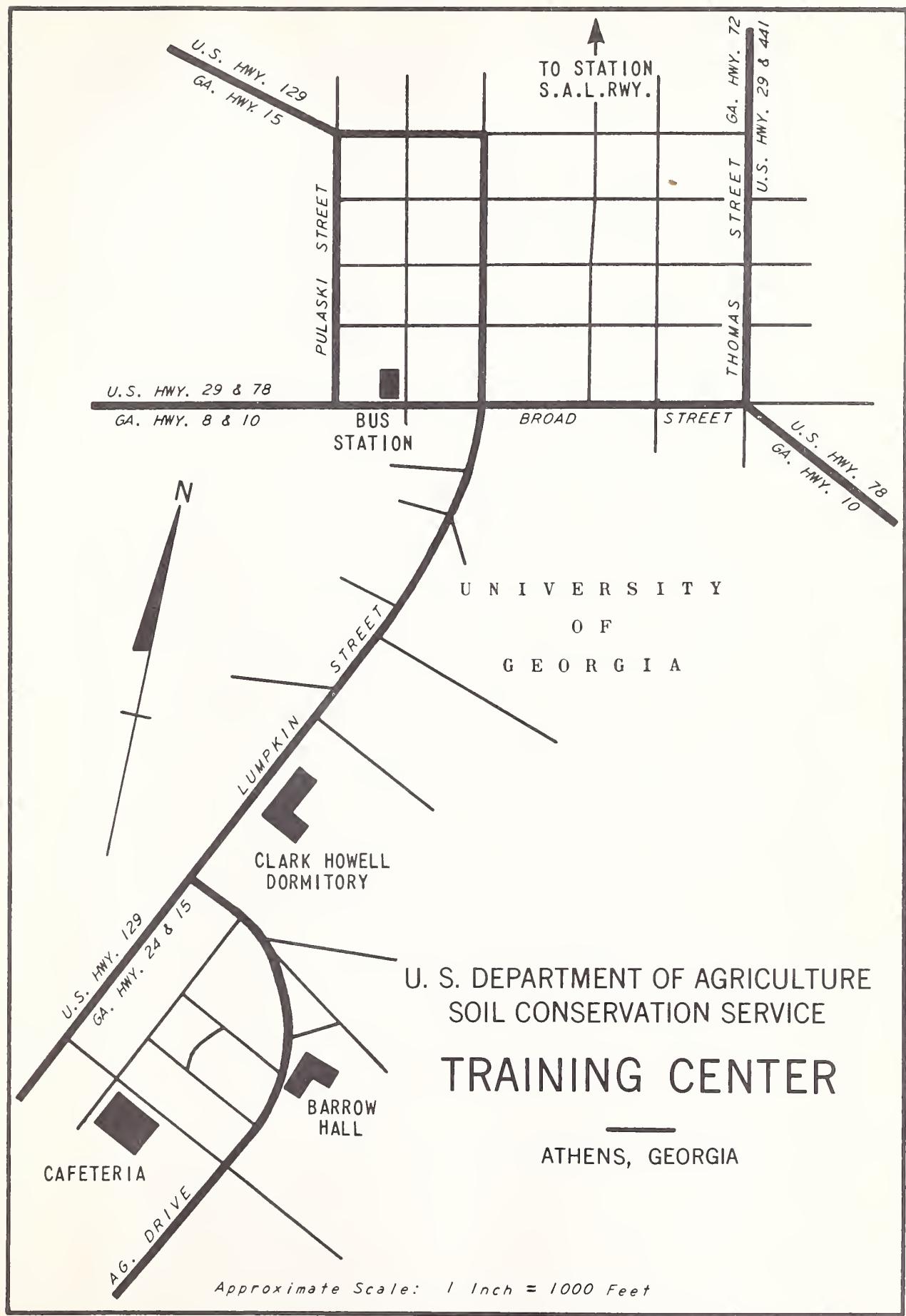
I hope that when your assignment has been completed you will have a better understanding of the principles of soil and water conservation and of the principles of more effectively working with people in the accomplishment of the job ahead. If you do, then the farmers whom you assist, you, and the Soil Conservation Service will profit from your efforts and training.


D. A. Williams
D. A. Williams
Administrator

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*Care and Use of Level
Level Problem
Farm Ponds
Drainage
Irrigation
Profile and Cross Section Procedure



INFORMATION AND INSTRUCTIONS

1. Location:

The Athens Training Center for professional and subprofessional employees of the Soil Conservation Service is located on the campus of the University of Georgia, Athens, Georgia. The Training Center Headquarters is Room 203 Barrow Hall, on "Ag" Hill. (See enclosed location map)

2. Mailing Address: Post Office Box 1481, Athens, Georgia

3. Telephone: Liberty 6-7034

4. Transportation Facilities:

Via Rail - Seaboard Airline Railroad

Via Bus - Greyhound Bus Line

Via Air - Southern Airways, Atlanta-Charlotte Division

Taxi service is available in Athens at a reasonable rate.

If requested, travel by privately-owned auto may be authorized by the State Conservationist.

5. Time to Report:

Trainees should plan to arrive at Athens the afternoon or evening preceding the scheduled opening day.

6. Living Quarters and Meals:

Trainees will be quartered in Clark Howell Hall, a men's dormitory on Lumpkin Street near the football stadium. Dormitory rooms include Nos. 255 to 267, inclusive, and are provided. A deduction of 80¢ per day will be made from the per diem rate of the trainee. Bedding, linen, towels and custodial service will be furnished.

Meals will be furnished each trainee at the University Cafeteria at a rate of approximately \$2.00 per day. The trainee will be expected to purchase a meal ticket on the first day of the training.

A per diem rate of \$4.00 should be adequate to cover the cost of living expenses at the Training Center.

7. Course of Instruction:

The professional course of instruction is for a period of five weeks. Various trainers, specialists in their line, will be in charge of the different technical phases of the field of soil and water conservation. Study on problems in the field complement study in the Training Center Room. A detailed outline of subjects covered are included in this handbook.

8. Recommended Prerequisites:

With approximately 24 trainees at each session it is of utmost importance that each trainee be ready for the training. Pre-training Center experience should include:

- a. The trainee should be familiar with the District Enabling Act of his State.
- b. The trainee should spend sufficient time with his District Soil Scientist so as to have some knowledge of soils, soil surveys, and land capability classification.
- c. The trainee should know how to use and care for a level, run a simple level circuit and keep proper field notes.
- d. The trainee should be acquainted with seeding mixtures, rotations, liming and fertilization practices in his District.
- e. The trainee should be able to identify by name many of the trees and shrubs common to his District.
- f. With limited supervision, the trainee should have helped a farmer develop a conservation plan on one farm, at least.

9. Training Outline:

Each trainee will present to the Training Center Supervisor a statement of training he has successfully completed since entering on duty with the Soil Conservation Service. This can be a short statement from his immediate supervisor, Area Conservationist or trainer.

10. Reports on Performance:

A report is prepared at the close of the session and copies of it are sent to the State and Area Conservationist. These become a part of the trainee's permanent personnel record. Area Conservationists are expected to discuss this report with the trainee and to schedule any indicated needed follow-up training.

11. Equipment Required:

Field clothes and footwear suitable for all normal weather conditions will be necessary.

12. How to Report Time and Activity:

The Time and Attendance Report, Standard Form-1130 for trainees at the Training Center, should be handled in the same manner as for an employee in travel status.

The Daily Activities Record, Form SCS-192 or 192-a, will be completed and forwarded as instructed by his Area Conservationist.

Athens Training Center Staff
Athens, Georgia

Resident Staff

Bennett, Jackson, Training Center Supervisor

Turkett, Warren B., Ass't. Training Center Supervisor

Crouch, Mrs. Ellinor W., Clerk-Stenographer

Associate Staff

Adams, Wm. E., Agronomist, Southern Piedmont Conservation Experiment Station, Watkinsville, Ga.

Barnett, A. P., Engineer, Southern Piedmont Conservation Experiment Station, Watkinsville, Ga.

Bobo, Wm., Cartographer, Cartographic Unit, Spartanburg, S. C.

Carreker, John R., Superintendent, Southern Piedmont Conservation Experiment Station, Watkinsville, Ga.

Case, J. M., Forester, Spartanburg, S. C.

Cobb, Carlisle, Jr., Hydrologist, University of Ga., Athens, Ga.

Davison, Verne, Biologist, Auburn, Ala.

Gross, Alva B., State Administrative Officer, Raleigh, N. C.

King, Barrington, Field Information Unit, Spartanburg, S. C.

Kneece, R. R. Cartographer, Cartographic Unit, Spartanburg, S. C.

Maurer, T. C., Agronomist, Spartanburg, S. C.

Renfro, Geo., Irrigation Engineer, Spartanburg, S. C.

Saucier, H. S., Management Agronomist, Meridian, Miss.

Schlaudt, E. A., Drainage Engineer, Spartanburg, S. C.

Sisk, Leon, Field Information Unit, Spartanburg, S. C.

Worley, L. D., State Engineer, Athens, Ga.

Young, W. C., Plant Materials Specialist, Athons, Ga.

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service

Athens Training Center, Athens, Georgia
Five-Week Training Session Schedule

First Week

Monday

| | | |
|---------------|---|---------|
| 8:30 - 10:30 | Office - Introductions, Rules, Regulations for Use of Facilities | Bennett |
| 10:30 - 12:30 | Office - Orientation and Interviews | Turkett |
| 1:30 - 4:30 | Office - Orientation and Interviews | Gross |
| 4:30 - 5:30 | Office - Public Speaking | Gross |
| | | Bennett |
| | | Turkett |

Tuesday

| | | |
|---------------|---|--------------------------|
| 8:30 - 10:30 | Office - Being a Successful Conservationist | State Conservationist |
| 10:30 - 12:30 | Office - Pacing, Care and Use of Level, and Note Keeping | Turkett |
| 1:30 - 2:30 | Field - Establish Pace and Stride | Turkett |
| 2:30 - 5:00 | Field - Level Problem | Turkett |
| 5:00 - 5:30 | Office - Stream Flow Measurements | Turkett |

Wednesday

| | | |
|--------------|---|--------|
| 8:30 - 12:30 | Office - Photo Interpretation, Use of Stereoscope, Types of Maps | Bobo |
| 1:30 - 5:30 | Office - Photo Interpretation and Map Work | Kneoco |

Thursday

| | | |
|--------------|--|---------|
| 8:30 - 12:30 | Office - Photo Interpretation and Cartography | Bobo |
| 1:30 - 5:30 | Office - Land Capability Maps and Cartography | Kneoco |
| 6:30 - 7:30 | Office - Public Speaking | Bobo |
| | | Kneoco |
| | | Bennett |
| | | Turkett |

Friday

| | | |
|---------------|---|---------------------|
| 8:30 - 10:30 | Office - Small Watersheds | Bennett |
| 10:30 - 11:30 | Office - Experiment in Soil and Water Conservation | Carreker |
| 11:30 - 12:30 | Office - Run-off Plot Organization and Results | Barnott |
| 1:30 - 5:30 | Field - Study of Run-Off Plots and 100-acre Farm | Carreker Barnott |

Athens Training Center, Athens, Georgia
Five Week Training Session Schedule

Second Week

Monday

| | | |
|---------------|--|-----------------|
| 8:30 - 10:30 | Office - Profile and Cross Section Procedure | Turkett |
| 10:30 - 12:30 | Office - Cross Section and Profile | Turkett |
| 1:30 - 2:30 | Laboratory - Stream Flow Measurements | Turkett, Cobb |
| 2:30 - 4:30 | Field - Cross Section and Profile | Turkett |
| 4:30 - 5:30 | Office - Plotting Cross Section and Profile | Turkett |
| 7:00 - 8:00 | Office - Human Relations | Outside Speaker |

Tuesday

| | | |
|--------------|--------------------------------------|---------|
| 8:30 - 12:30 | Office - Soils, How They Differ | Bennett |
| 1:30 - 3:30 | Field - Soil Profile Characteristics | Bennett |
| 3:30 - 5:30 | Office - Engineering Surveys | Turkett |
| 5:30 - 6:30 | Office - Public Speaking | Bennett |
| | | Turkett |

Wednesday

| | | |
|---------------|--|---------|
| 8:30 - 10:30 | Office - Soil Forming Factors, Organic Matter, Clay Complex and Soil Moisture | Bennett |
| 10:30 - 12:30 | Office - Soil Classification | Bennett |
| 1:30 - 5:30 | Field - Soil Survey Mapping | Bennett |
| 5:30 - 6:30 | Office - Public Speaking | Turkett |

Thursday

| | | |
|--------------|----------------------|------------|
| 8:30 - 12:30 | Office - Information | King, Sisk |
| 1:30 - 5:30 | Office - Information | King, Sisk |

Friday

| | | |
|---------------|--|---------|
| 8:30 - 11:30 | Office - Soil Interpretation, Land Capability Classes, Etc. | Bennett |
| 11:30 - 12:30 | Office - National Cooperative Soil Survey | Bennett |
| 1:30 - 4:30 | Field - Study of Land Classes | Bennett |
| 4:30 - 5:30 | Office - Soils, Summary and Quizz | Bennett |

Athens Training Center, Athens, Georgia
Five Week Training Session Schedule

Third Week

Monday

| | | |
|--------------|--------------------------------------|-----------------|
| 8:30 - 12:30 | Office - Land Use and Water Disposal | Worley |
| 1:30 - 5:30 | Field - Field Layout | Worley, Turkett |
| 7:00 - 8:00 | Office - Human Relations | Outside Speaker |

Tuesday

| | | |
|--------------|--------------------------------------|-----------------|
| 8:30 - 12:30 | Field - Water Disposal, Field Layout | Worley, Turkett |
| 1:30 - 5:30 | Field - Review and Summary | Worley, Turkett |

Wednesday

| | | |
|--------------|---|---------|
| 8:30 - 12:30 | Office - Woodland Management in the Southeast | Case |
| 1:30 - 5:30 | Field - Marking and Cutting Practice | Case |
| 6:30 - 7:30 | Office - Public Speaking | Bennett |
| | | Turkett |

Thursday

| | | |
|--------------|---|---------|
| 8:30 - 12:30 | Office - Crop Trees, Site Class, etc. | Case |
| 1:30 - 5:30 | Field - Marking for Harvest of Mature Stand | Case |
| 6:30 - 7:30 | Office - Public Speaking | Bennett |

Friday

| | | |
|---------------|--|---------|
| 8:30 - 10:30 | Office - Woodland Planning | Case |
| 10:30 - 12:30 | Field - Woodland Planning | Case |
| 1:30 - 3:30 | Office - Method of 90° and use of Planimeter | Turkett |
| 3:30 - 5:30 | Office - Reports and Records | Bennett |

Athens Training Center, Athens, Georgia
Five Week Training Session Schedule

Fourth Week

Monday

| | | |
|--------------|-----------------------------|---------------------|
| 8:30 - 12:30 | Office - Cropland Treatment | Maurer |
| 1:30 - 5:30 | Field - Rotations | Maruer, Adams |
| 6:30 - 7:30 | Office - Public Speaking | Bennett, Turkett |

Tuesday

| | | |
|---------------|---------------------------------|---------------------|
| 8:30 - 10:30 | Office - Cropland Management | Maurer |
| 10:30 - 11:30 | Office - Contour Strip Cropping | Turkett |
| 11:30 - 12:30 | Office - Public Speaking | Bonnett, Turkett |
| 1:30 - 5:30 | Office - Grazing Program | Maurer |

Wednesday

| | | |
|--------------|------------------------------|---------|
| 8:30 - 12:30 | Field - Grazing Program | Maurer |
| 1:30 - 3:30 | Office - Plant Materials | Young |
| 3:30 - 5:30 | Office - Farm Pond Procedure | Turkett |

Thursday

| | | |
|--------------|------------------------------|---------|
| 8:30 - 12:30 | Office - Farm Pond Procedure | Turkett |
| 1:30 - 5:30 | Field - Farm Pond Problems | Turkett |
| 5:30 - 6:30 | Office - Farm Pond Planning | Turkett |

Friday

| | | |
|--------------|-----------------------------|---------|
| 8:30 - 11:30 | Office - Farm Pond Planning | Turkett |
| 11:30 - 4:30 | Office - Irrigation | Renfro |
| 4:30 - 5:30 | Office - Farm Planning Maps | Bennett |

Athens Training Center, Athens, Georgia
Five Week Training Session Schedule

Fifth Week

Monday

| | | |
|--------------|--------------------------|---------------------|
| 8:30 - 12:30 | Office - Biology | Davison |
| 1:30 - 5:30 | Field - Biology | Davison |
| 5:30 - 6:30 | Office - Public Speaking | Bennett, Turkott |

Tuesday

| | | |
|--------------|-------------------|----------|
| 8:30 - 12:30 | Office - Drainage | Schlaudt |
| 1:30 - 5:30 | Field - Drainage | Schlaudt |

Wednesday

| | | |
|--------------|------------------------|---------|
| 8:30 - 12:30 | Office - Farm Planning | Saucier |
| 1:30 - 5:30 | Office - Farm Planning | Saucier |

Thursday

| | | |
|-------------|------------------------|---------|
| 8:30 - 3:30 | Field - Farm Planning | Saucier |
| 3:30 - 6:30 | Office - Farm Planning | Saucier |

Friday

| | | |
|--------------|-----------------------------|---------|
| 8:30 - 12:30 | Office - Farm Planning | Saucier |
| 1:30 - 2:30 | Office - Farm Planning | Saucier |
| 2:30 - 3:30 | Office - Checking Equipment | Bennett |

PUBLIC SPEAKING PERIODS

These periods are designed to build the trainees' confidence in their ability to speak before groups, conduct meetings, and introduce speakers.

The public speaking sessions are organized and conducted by the trainees following an assignment chart which will be posted early in the session.

Officers and their duties are as follows:

1. Chairman - will preside over the meeting and is responsible for the timely and proper conduct of the meeting following Robert's Rules of Order.
2. Topic Chairman - will select the topic for the one-minute speeches and take charge of the meeting while they are being presented.
3. Toastmaster - will take charge of the meeting while the five-minute speeches are being presented and will properly introduce each speaker.
4. Chief Evaluator and one Assistant - the Chief Evaluator will take charge of the meeting during the evaluation period. Both evaluators will listen analytically and critically to all speeches. Tell what was good about each speech and speaker and what was distracting, on general principles. Don't try to "tear the speaker apart", and do not be too complimentary. If you give criticism, try to offer a suggested improvement.
5. Grammarians - checks mispronunciation of words, calls attention to careless enunciation, slurring of syllables and of endings. He watches for words and phrases incorrectly used, and for errors in grammar. He does not hunt for mistakes, but takes them when they are noticeable. He pays a compliment when it is deserved.
6. Timekeeper - keeps time of all speakers giving a predetermined signal of various time intervals during the speech. Reports time used by each speaker.
7. Parliamentarian - should be prepared to assist the Chairman with questions regarding parliamentary procedure.

Each trainee will have an opportunity to serve in above capacity or give either a one-minute or five-minute speech during each period.

INTRODUCTIONS

1. Trainees will present themselves to the group by full name, name commonly used, location, length of time in the Soil Conservation Service, name of work unit conservationist and name of area conservationist. Other information will be of interest, such as hobbies, recreation, military experience, size of family, etc., and will help trainees get acquainted.
2. Brief discussion regarding instructors who will participate in course, how the course will be conducted and the objectives of the training session.

TRAINING CENTER FACILITIES

1. Facilities and regulations
2. Assignment of duties
3. Records of accomplishment

SAFETY ORGANIZATION

1. Explain safety organization
 - A. Discuss safety
 1. While working
 2. While driving vehicles
 3. Off hours, recreation
 - B. Explain Safety Inspection and Report for Training Session
 - C. Fire Prevention in a Safety Program



ORIENTATION

- I. Introduction to the orientation session.
- II. History of soil conservation.
 - A. There have been four eras:
 - 1. Recognition
 - 2. Experimental
 - 3. Demonstrative
 - 4. Application
- III. The Soil Conservation Service.
 - A. Originated by an Act of Congress
 - 1. Purpose
 - 2. Objective
 - B. Subsequent acts which extended Service responsibility.
 - C. Watershed movement - past - present.
 - D. Relationships with other agencies - Extension - A.S.C.
 - E. Research
- IV. The Soil Conservation District movement.
 - A. History of District movement.
 - B. Concepts and Principles.
 - C. District formation.
 - D. State and National Organization.
 - E. Cooperating Federal and State Agencies.
- V. Relationship of Districts and SCS.
 - A. Request for assistance of the Soil Conservation Service.
 - B. District Program and Work Plan.
 - C. Memorandum of understanding and supplemental memorandum of understanding.
 - D. District governing body and Soil Conservation Service



VI. Organization of the Soil Conservation Service.

- A. Line organization.
- B. Staff function.
- C. Basic policies.
- D. Relationship between Area Conservationist and Work Unit Conservationist.
- E. Organization at the Work Unit level.

VII. Careers in Soil Conservation Service.

- A. Personnel program.
 - 1. Career system in SCS.
 - 2. Job review.
 - 3. Performance standards and inspections.
 - 4. Performance ratings.
- B. Rights, privileges, and obligations.
 - 1. Probational appointment.
 - 2. Position classification and pay.
 - 3. Leave.
 - 4. Retirement and Social Security.
 - 5. Transfers - movement of household goods - transportation.
 - 6. Outside work.
 - 7. Political activity.
 - 8. Employee organizations.
- C. Awards program.
- D. Safety and Health.
 - 1. Accidents - liability
 - 2. Compensation - doctors
 - 3. First Aid.



CARE AND USE OF LEVEL AND NOTEKEEPING

- I. Slides showing care and use of level, and discussion of material covered by slides.
- II. Notekeeping.
 - A. Types of Notebooks.
 - B. Identification of books.
 - C. Cross index of notebooks and farm plans.
 - D. Information to be covered at top of page.
 - E. Neatness in notes.
 - F. Correcting errors.
 - G. Bench Marks (description)
 - H. Sketch.
 - I. Reducing notes.
 - J. Level circuits (open and closed)

Materials Needed:

1. Slides
2. Notebook for each person
3. Blackboard
4. Chalk
5. Eraser
6. One (1) Level
8. One (1) Tripod



LEVEL PROBLEMS

Field

- I. Leveling - (define)
- II. Discuss problem.
- III. Survey (closed circuit)
- IV. Reduce notes.
- V. Check closure.

Materials Needed:

1. One (1) level for each two persons.
2. One (1) level rod for each two persons.
3. One (1) hatchet for each two persons.
4. One (1) notebook per person.
5. One (1) pencil per person - 4H.
6. One (1) tripod per person.



AERIAL SURVEYS AND PHOTO-INTERPRETATION

- I. The scope and application of stereoscopic methods of photo-interpretation techniques.
- II. Explanation and comparison of stereoscopic vision as applied to photo-interpretation and normal habits of viewing objects and scenes. The third dimension in stereo-viewing.
- III. The various types of stereoscopes and their application in viewing aerial photographs in the third dimension.
- IV. The adjustment of stereoscopes which will be most commonly used.
- V. Adapting the eyes and eye muscles to the requirements for the viewing and study of stereoscopic pairs of photos.
- VI. Positioning and manipulation of aerial photographs for stereo study.
- VII. The delineation of drainage and the location of pond sites by use of photo-interpretation techniques with aerial photographs.
- VIII. Running out watershed boundaries.
- IX. Recognizing different degrees of slope, developing keys which indicate various physical conditions of the land.
- X. The properties and characteristics of aerial photographs. How those properties are used in stereoscopic plotting instruments for the measurement or mapping of various features of the earth's surface.
- XI. Match-lining the effective areas of aerial photographs.
- XII. Tying and matching soil survey delineations from one photograph to the adjoining one. Transferring soil survey data from one photo to another.
- XIII. The Service policy on the distribution of aerial photographs. Extent to which aerial photographs are available.



GENERAL CARTOGRAPHIC

I. Lettering

- A. The necessity for doing legible lettering. Common errors and the resulting misinterpretation.
- B. The simple block lettering style and the differences between the capital and lower case letters. The vertical as compared to the slanted lettering style block letters.
- C. How to do legible lettering, the basic strokes and sequence. (practice)

II. Maps - General

- A. Brief discussion of various types of maps of use to field technicians which are available for general or specific problems.

III. Maps - Soil and Capability Maps

- A. Brief discussion of requirements for securing the kind of final maps desired for use in the farm plan.
- B. Procedure for requesting these maps from Cartographic Unit including the difference between states.
- C. Methods for coloring Soil and Capability Maps according to capabilities. Instruction in use of water color pencils for coloring. (practice)

IV. Maps - Land Use Maps

- A. Methods for making the sketches of the plan legible and clear, including the use of conventional map symbols, colors and legible lettering.
- B. Brief discussion of the several types of land use maps in use in the several states and procedures for obtaining them.

V. Maps - For Special Planning Purposes

VI. Photo-Mosaics

- A. General discussion of use and limitations, including accuracy, scale and size. When to use and how to secure.

VII. Special Maps for use in connection with information and education activities.

VIII. Outline of Cartographic functions in addition to those discussed above. General requirements for making requests including approvals when required, scale, size, allowance of adequate time for delivery. How to be sure that deadlines are met.



SMALL WATERSHEDS

I. Introduction

- A. Contents of Public Law 566.
- B. Public Law 566 in relation to Public Law 46 program.
- C. Pilot watersheds and River Basin flood control work.

II. Small Watershed Work Plan

- A. Application for planning assistance from local organizations.
- B. How the plan is developed.
- C. Contents of plan.
- D. Purpose and use of plan.

III. Small Watershed Program

- A. Upland land treatment.
 - 1. Vegetative treatment.
 - 2. Engineering treatment.
- B. Flood plain land treatment.
 - 1. Vegetative treatment.
 - 2. Engineering treatment.
- C. Flood Retardation Structures.
 - 1. Purpose.
 - 2. Limitations.
 - 3. Effect.
- D. Channel Improvement.
 - 1. Snagging and brushing.
 - 2. Channel Straightening.
 - 3. Channel stabilization.
 - 4. Channel enlargement.
- E. Drainage
 - 1. Group jobs
 - 2. Individual jobs
- F. Irrigation
 - 1. Group jobs
 - 2. Individual jobs.

IV. Cost/Benefit Ratio

- A. Individual practices
- B. Watershed program

V. Cost-Sharing

- A. Individual cost.
- B. Local organization cost.
- C. Federal cost.
- D. How cost-sharing is figured.

The instruction will be conducted with the use of a film and with slides of parts of work plan, individual practices before and after treatment, and aerial views of actual watersheds before and after treatment.



RESEARCH

| <u>Hours</u> | <u>Place</u> | |
|--------------|--------------|--|
| 1/2 | Office | I. Research in Soil and Water Conservation. A. Purpose B. Location of Research Stations in U.S.A. C. Facilities at Southern Piedmont Conservation Experiment Station. |
| 1/2 | Office | II. Measuring run-off and soil losses from cropland. Series of slides. |
| 1 | Office | III. Results from studies in run-off and soil loss. A. Rainfall characteristics. B. Run-off influenced by cover. C. Soil losses. D. Effect of cropping treatment. 1. Continuous row crop. 2. Two year rotations - 1/2 cover. 3. Three year rotations - 2/3 cover. 4. Continuous cover. |
| 1 | Office | IV. Applying research results to field practice on actual farm. A. Water Disposal. B. Cropping practice. C. Machinery application. |
| 2 | Field | V. Study of run-off plots at the Southern Piedmont Experiment Station. A. Land Class IIe. B. Land Class IIIe. C. Land Class IVe. |
| 2 | Field | VI. Study of 100 acre farm unit at the Experiment Station. |



SOILS, SOIL SURVEYS AND LAND CAPABILITY

Hrs. Place

4 Office

I. Introduction. What is a Soil?

A. Objectives of course

1. Develop an attitude of wanting to learn more about soils and confidence in their ability to do so
2. Develop an appreciation of soils and their importance in the soil conservation program
3. Develop confidence to make and use soil interpretations in conservation work and planning

B. Value and use of soils information in Soil Conservation Service (Use soil survey map of farm)

II. Soil Functions in Plant Growth

- A. Provides water
- B. Provides air
- C. Provides plant nutrients
- D. Provides support

III. How Soils May Be Changed

- A. Erosion and deposition (Use slides and/or photos)
- B. Salt accumulation
- C. Soil structure deterioration (Coshocton peds)
- D. Over drainage - peats, mucks and sands
- E. Fertility loss or gain - leaching, oxidation, crop production, good rotations, etc.

IV. How Soils Differ - Reference: Soil Survey Manual, pages 205, 225, 231

- A. Slope - (Use slides of slope classes)
- B. Soil profile - horizons, arrangement and thickness - (Use eight slides of Cecil-Louisburg Catena)
Distribute form SCS-232
- C. Color of horizons (Show Munsell Color Hues by opaque projector) - Read page 194, S.S.M.



Hrs. Place

D. Texture of horizons - (Distribute and explain triangle) - texture explained on mimeographed sheet

E. Structure of horizons - arrangement of soil particles

F. Consistence of horizons

G. Parent materials - use large map of U. S.

H. Quiz on soil texture

2 Field V. Field Trip - study and describe soils including profiles. Use spade, knife, color charts and Soiltex

2 Office VI. Organic Matter and Soil Fertility - show picture, "Life of the Soil"

A. Kind

B. Amount

C. Availability

VII. Soil Characteristics affecting Soil Amendments

A. Base exchange - excerpts from work by Messrs. Swanson and Cady

B. Kind of clay - Kaolinite, Illite and Montmorillonite

C. Soil reaction - P^H

D. Salts - saline, alkainine soils

VIII. Soil Moisture - (Show group of slides from Morrow Plots, etc.)

A. Permeability

B. Water-holding capacity

IX. Why Soils Differ - show U. S. maps

A. Climate

B. Living matter (Plants and animals)
"Micro-organism" by McCalla and Gooding

C. Parent material

D. Relief

E. Time

Hrs. Place

X. Soil Classification - (show chart of Great Soil Group)

- A. Soil series - describe.
- B. Classification Scheme - 4th Approximation.
- C. Soil mapping units - soil types, National Code, and others.
- D. Give soil survey legend for mapping individual farm.

4 Field XI. Field Trip - (examine soils and study principles of soil identification and mapping).

3 Office XII. Soil Interpretation.

- A. Principles used to group soils.
- B. Kinds of interpretive groupings.
- C. Value and use of interpretive groupings.

XIII. Capability Groupings - Criteria for determining land class - limitations and hazards.

1 Office XIV. General Scope and Responsibility of the National Cooperative Soil Survey. Administrator's Memo. No. 47 and Soil Survey Memo. No. 5.

3 Field XV. Field - Study soil characteristics and related features affecting land capability groupings. Identify capability classes, sub-classes and units. Demonstrate methods and techniques of presenting land capability information to people.

1 Office XVI. Summary and Examination.

Tools and other Materials Needed

1. Spades, soil augers, abney levels, clip-boards
2. Aerial photographs of farms to be mapped
3. Soil samples of predetermined texture for quiz
4. Soil profile monoliths from each state in Southeast
5. Kodachrome slides of soil profiles, land capability classes, etc.
6. Charts, as needed
7. References: Soil Survey Manual, Soils and Men, Guide for Soil Conservation Surveys, Soil Survey bulletins, The Measure of Our Land, Our Garden Soils.

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GROUP ACTION AND HUMAN RELATIONS

I. Group Action - Work with more than one person at a time.

A. Leading an indoor conference.

1. Go directly into the subject.
2. Speak distinctly so as to be understood.
3. Emphasize important points.
4. Summarize for emphasis.
5. Stop when you are through.

B. Leading an outdoor conference.

1. Have something work seeing.
2. Assemble people so that they can see the object of your explanation.
3. Place yourself so that you can see all people in the group, and the object of your explanation. Get the attention of the people before beginning your explanation.
4. Speak loudly enough to be heard.
5. Point to the particular features of the field that you consider important.
6. Don't waste words - stop when you are through.

C. Conducting a field demonstration.

1. Select a good site.
2. Assemble all needed implement and materials.
3. Have a practice run to see that everything works before the demonstration.

II. Being a good citizen.

A. Being an active citizen of the community.

1. Church
2. Schools
3. Civic Clubs and other activities.

- B. Keep personal business under control.
- C. Use your good manners at all times.
- D. Always remember the horn on your pickup is for safety purposes.
- E. Present a neat appearance.
- F. Be friendly but don't talk too much.
- G. Be on time for all appointments.
- H. Orderly, systematic approach to your job creates respect and good will among people with whom you work.

III. The written word in human relations -

- A. Write primarily about soil and water conservation -
don't invade the field of others.
- B. Report the good work of others; don't criticize; don't editorialize.
- C. Give due credit to other agencies for their contributions when writing farm success stories.
- D. If you have done your job well others will give you credit.



PROFILE AND CROSS SECTION PROCEDURE

I. Office

- A. Profile and cross section (define)
- B. Describe how used in our work.
- C. Procedure of survey.

Material: blackboard, chalk, eraser

II. Field

- A. Explain problem.
- B. Survey for cross section and profile.
- C. Reduce notes.

Material:

1. Level for each two (2) people.
2. Level rod for each two (2) people.
3. Level tripod for each two (2) people.
4. Hatchet for each two (2) people.
5. Notebook and pencil for each two (2) people.

III. Office

- A. Procedure used to plot cross section and profile.
- B. Different paper.
- C. Set up scales for plotting field problem.
- D. Plot field problem.

Material:

1. Cross section paper for each person.
2. Profile paper for each person.
3. Blackboard, chalk and eraser.



INFORMATION TRAINING

I. Introductory Discussion. Time: Forty-five minutes

- A. Information as a production tool.
- B. Every Employee a public relations man.
- C. Information media.
 - 1. Press
 - 2. Radio
 - 3. Television
- D. Information relationships.
- E. Others who can help get the job done.
 - 1. Schools
 - 2. Civic clubs and groups.
 - 3. Chambers of Commerce.
 - 4. Banks, business firms, etc.

II. News writing opportunities, 15 slides. Time: Forty-five minutes

- A. Our best friends
 - 1. Newspapers
 - 2. Farm magazines
- B. Value of newspaper and magazine space.
- C. How are we doing?

III. Blackboard discussion, group participating. Time: One hour

- A. Why write?
 - 1. Inform people
 - 2. Help us do our job
 - 3. Create interest
 - 4. Keep soil conservation before the public.



5. Build farmer morale.
6. Build technician's morale.
7. Speed up soil and water conservation work.
8. Report to people on use of public funds.
9. Create a desire for better living.
10. Basic policy of SCS-Dissemination of information is a function at all levels of the Service.

IV. Blackboard discussion, group participating. Time: One hour

A. What to emphasize.

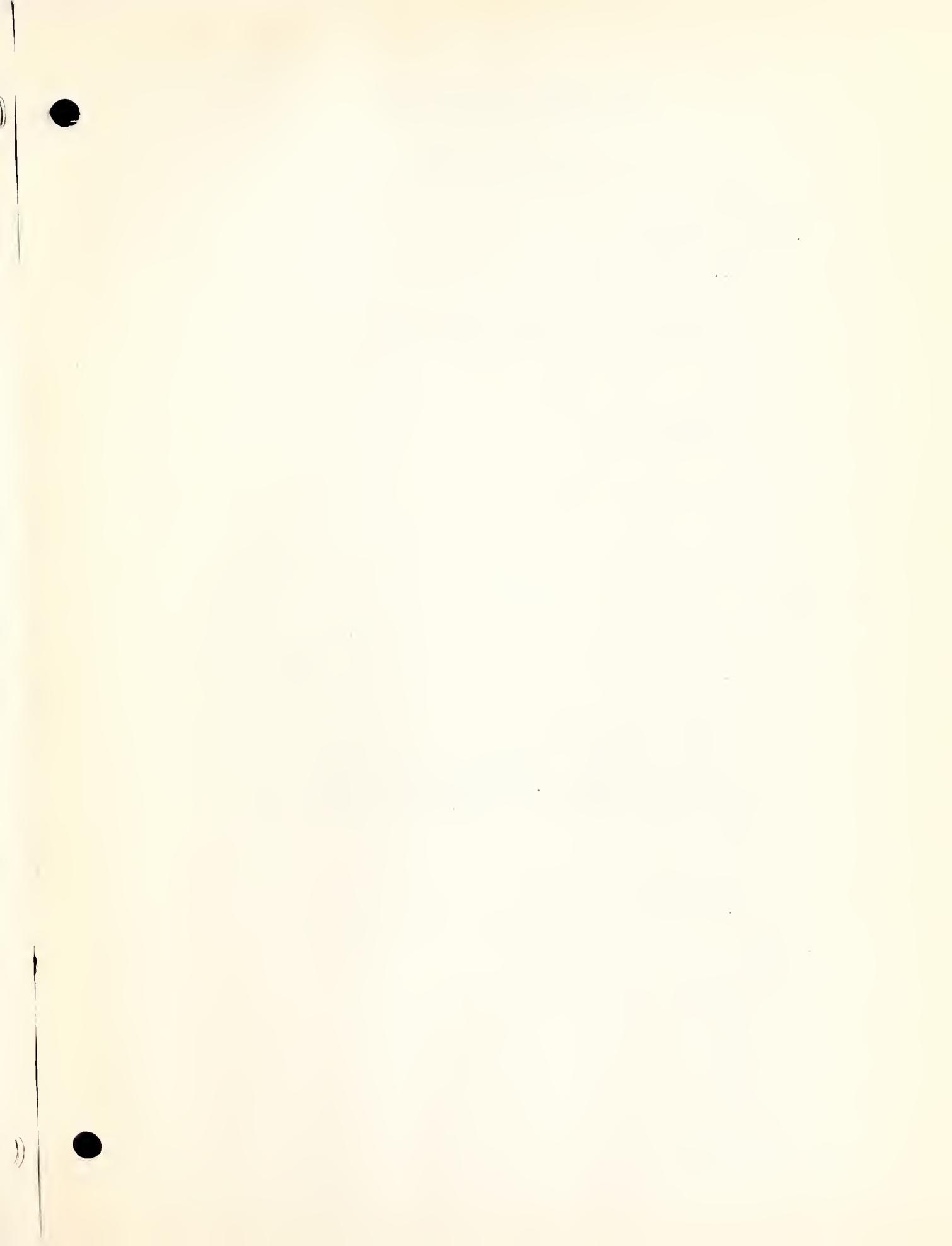
1. Seasonal work.
2. What farmers are doing.
3. Results -- what farmers say.
4. How the farmer did the job.
5. District supervisors
6. Land capability.
7. Complete farm plan.
8. Soil Conservation Service.
9. Benefits
10. Need for soil and water conservation.
11. Practical program.
12. Stick to facts.
13. Give credit where credit is due.

V. Assignment of news story to be written by each member of group before next day's session. Time: One-half hour.

A. Discussion and questions



- VI. Mechanics of news writing, 30 slides. Time: 1-1/2 hours
- VII. Discussion of prepared news stories. Time: 2 hours
- VIII. Summary discussion and questions. Time: 1/2 hour
- IX. Audio-visual aids. Discussion with pictures, charts, and equipment. Time: 4 hours
 - A. What are audio-visual aids?
 - B. Why use audio-visual aids?
 - C. How to use audio-visual aids.
 - D. Tips for visual aid presentation.
 - 1. Motion pictures.
 - 2. Slides and filmstrips.
 - 3. Charts.
 - E. Photographs
 - 1. What is a good picture?
 - 2. How to use pictures.
 - 3. Filing pictures.
 - F. Radio and television
 - 1. How to write for radio.
 - 2. Type of script to use.
 - 3. The broadcast.
 - 4. Building the TV show.



LAND USE AND WATER DISPOSAL

TEACHING OUTLINE

I. Land Uses

A. Rotated Cropland

1. Terraceable slopes .

- a. Land Classes IIe and IIIe.
- b. Conditions for terracing Class IVe.

2. Non-terraceable slopes.

- a. Knobby land.
- b. Critical slopes.

B. Permanent Pasture Land.

C. Woodland

D. Wildlife

II. Outlets

A. Purpose and Use.

B. Location

1. Natural depressions

- a. Well defined -- over 12 in. in depth.
- b. Medium define -- 6 - 11 in. in depth.
- c. Slightly defined -- less than 6 in. in depth.

2. Other areas

- a. Knolls
- b. Barriers -- roads, property lines, etc.

C. Types

1. Meadow

2. "V"

3. "W"

4. Half "W"

D. Construction



E. Treatment

F. Maintenance

III. Terraces

A. Location

B. Layout

1. Direction

2. Grade

C. Construction

1. Size

2. Shape

3. Methods

D. Row Arrangement

E. Maintenance

1. Land preparation

2. Plowing to maintain

IV. Fences

A. Location

1. On ridge.

2. On contour between land uses.

3. On contour terraced field.

4. Along outlets.

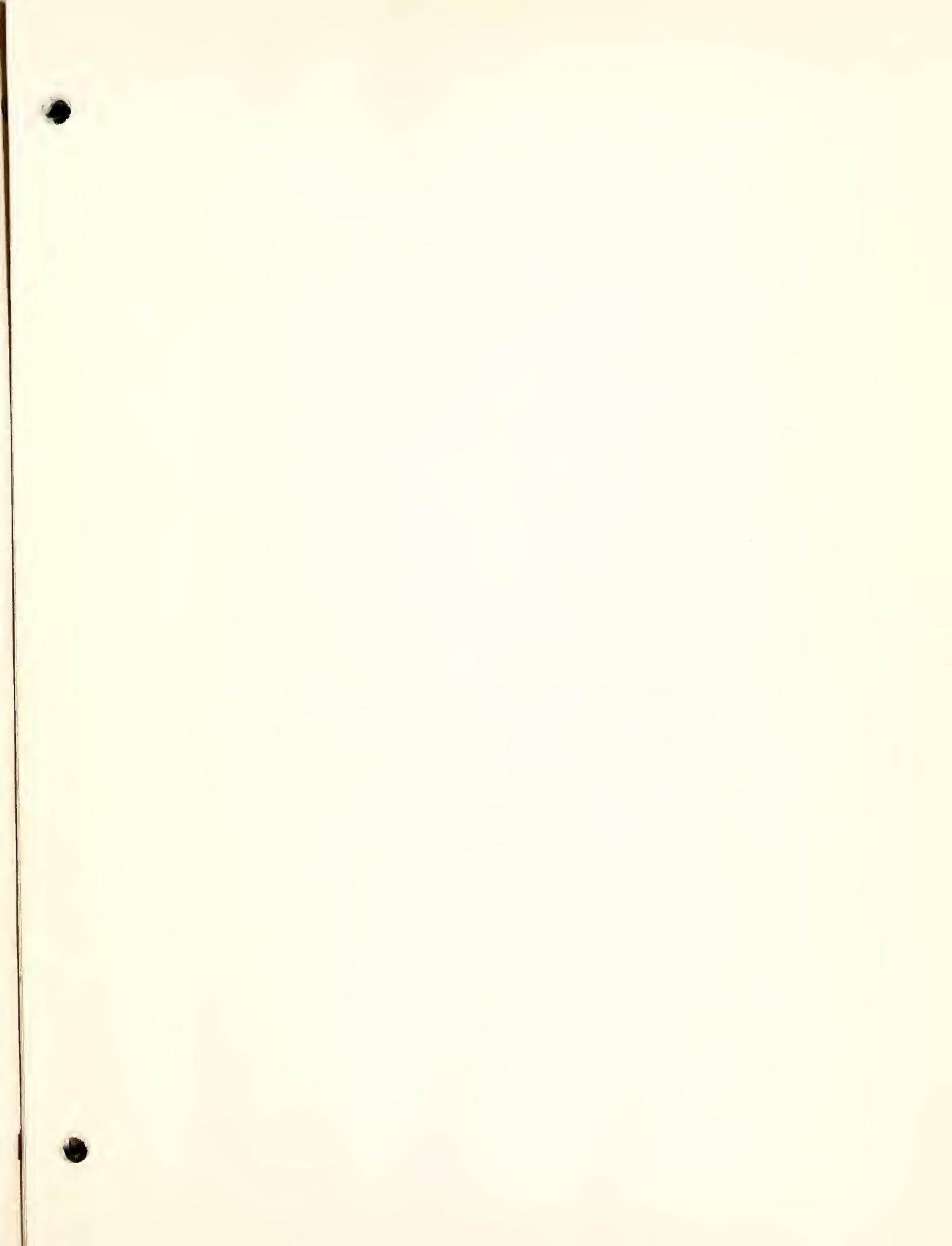
V. Farm Roads

A. Location

1. On ridges.

2. On contour.

3. On ridge "W" ditch.



VI. Diversion Ditches

- A. Purpose
- B. Where they apply.
- C. Location
- D. Design - See table.
- E. Layout
 - 1. Direction
 - 2. Grade
- F. Construction
 - 1. Size
 - 2. Shape
 - 3. Methods

Materials Needed:

1. 3' x 5' sq. ft. minimum blackboard with chalk and eraser.
2. One slide projector for 2" x 2" slides.
3. Screen and provisions to darken the room.
4. Engineering Handbook for each person.
5. Class room to accommodate the whole group.
6. One clipboard for each person.
7. One Engineers' Field Notebook for each person or 3 sheets per person of Engineers' loose-leaf notebook.



FIELD LABORATORY - WATER DISPOSAL

(The group will be divided into four (4) men to a squad and each squad will be assigned a watershed 5 to 15 acres in size.)

- I. Locate and stake out the outlets.
- II. Locate key terraces.
- III. Stake all terraces in the watershed and keep necessary guide notes.
- IV. As a group, all students will review the plans in each watershed.
- V. Summary

Materials Needed:

1. One (1) conservation survey map per person.
2. One (1) relief map of water disposal system per person.
3. One (1) level and rod for each four (4) persons.
4. One (1) 100-ft. steel tape.
5. One (1) hatchet for each four (4) persons.
6. 100 stakes - minimum 30" long for each four (4) persons.

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GENERAL OUTLINE FOR WOODLAND CONSERVATION
(Professional Course)

| <u>SUBJECT</u> | : | <u>MATERIALS</u> |
|---|---|---|
| <u>FIRST MORNING</u> - Classroom | : | (Number needed in parenthesis) |
| <u>ORIENTATION</u> | : | |
| A. Woodlands in the Southeast - Economic and Conservation aspects | : | A.F.P.I. Forest Facts (1) Forest Survey Release 54 & 55 (1) Farm Forestry in a Coordinated Program (25) |
| B. Policy and Working Relations | : | Administrator's Memo. 23 (1) Administrator's Memo. 55 (1) Administrator's Memo. 64 (1) Administrator's Memo. (WU Job) (25) Administrator's Memo. (Resp) (1) |
| 1. SCS Responsibilities | : | |
| 2. Other Agency Responsibilities FS, ASC, FHA, State Ext. Service | : | |
| 3. Industry, Consultants, and other assistance. | : | |
| <u>ANALYSIS OF SCS RECOMMENDATIONS FOR WOODLANDS - (What and Why)</u> | : | |
| A. Getting a Stand of Trees | : | Planning Guide Cards (25) |
| 1. Field Planting | : | 20" x 24" photos: (1 each) |
| 2. Interplanting or underplanting | : | |
| 3. Natural reproduction (Adapting the practice to conditions, site prep., species, procurement and care of planting stock, spacings and planting methods.) | : | |
| B. Woodland Protection | : | 20" x 24" chart: Site Index Curves (1) |
| 1. Fire Protection. Agency responsibility, damage and benefits, prescribed burning, kinds and uses of firebreaks | : | Administrator's Memo. 64 (1) Sample work sheets (25) 20" x 24" charts: (1 each) |
| 2. Livestock control - How to identify grazing damage and benefits Prescribing proper grazing control. | : | No. trees per acre (1) Sq. Ft. per tree (1) Average distance between Trees (1) |
| 3. Insect and disease control - General control methods and procedures and agency responsibility: | : | DBH - No. trees Lob. Curve (1) No. trees Shtlf. Curve (1) No. trees Slash Curve (1) No. trees Longlf. Curve (1) No. trees Hdwd. Curve (1) |



| SUBJECT | MATERIALS |
|--|--|
| <u>FIRST MORNING</u> - Classroom (Continued) | |
| C. Cutting Practices | |
| 1. Thinning - Explain D/ ² origin and theory | : Reineke, etc. Curve (1) |
| 2. Crop Trees | : Schnur Plots (1) |
| 3. Release Cutting | : "Info. Concerning Dominant Trees" (25) |
| 4. Salvage | : |
| 5. Compartments | : |
| 6. Cutting Cycle | : |
| <u>FIRST AFTERNOON</u> - Field | |
| Stop 1 - Practice in marking a natural stand - pulpwood size | : Increment Borer (2) |
| Use of stick for measuring diameter. | : Hand Level (1) |
| Tally of plot to show cut and leave and use of stick to get pulpwood volume. | : Tapo - 100' (1) |
| Stop 2. Marking a plantation - pulpwood size. Use of stick to determine how many trees to cut. | : Planning Cards (25) |
| | : Work Sheets (25) |
| | : Woodland Sticks (25) |
| | : Stapling Machinos (12) |
| | : Paint Gun (1) |
| | : Tree Marking Cards |
| | : |
| | : |
| | : |
| <u>SECOND MORNING</u> - Classroom | |
| | |
| | |
| | |
| | |
| APPLYING THE PLANNED PRACTICES | |
| A. SCS Responsibilities | : Administrator's Memo. _____ |
| B. Technical Application Standards | : Administrator's Memo. _____ |
| C. Teaching the Owner (<u>How</u> to do each job) | : J. I. T. Cards (25) |
| 1. Protection | : |
| a. Fire (resp. control, fire-breaks) | : Job Sheets (25) |
| b. Grazing | : |
| c. Insects, disease (reporting salvage) | : |
| 2. Getting a Stand | : |
| a. Natural reproduction (how to get it) | : 20 x 24" photo: Crop Tree Cut (1) |
| b. Interplanting (methods) | : 20 x 24" photo: Mech. planter (1) |
| c. Underplanting (methods) | : 20 x 24" photo: Pltg. bar (1) |
| d. Field planting (procurement, care of stock, site prep., spacing, maintenance) | : "Tree Planting in Southeast" (25) |
| e. Release cutting (refer to cutting) | : Job Sheet "Tree Planting" (25) |
| f. Windbreaks | : |
| | : "Windbreaks" (25) |
| | : |



| <u>SUBJECT</u> | : | <u>MATERIALS</u> |
|--|---|--|
| SECOND MORNING - Classroom (Continued) | : | |
| 3. Cutting Practices | : | "The Woodland Information Stick" (25) |
| a. Thinning (how to mark and teach) | : | 20" x 24" photo: D / 6 (1) |
| b. Release (methods) | : | Paint Gun (1) |
| c. Salvage (marking) | : | "Improving the Stand" (25) |
| d. Crop Tree (count, selection, etc.) | : | "Cornel Tool Adv." (25) |
| | : | Tally Register (1) |
| SECOND AFTERNOON - Field | : | |
| A. Marking a natural stand, sawlog size (All 4 reasons) | : | (Same as Stop 1) plus: Marking Cards |
| B. "Selling" the Woodland Owner | : | Woodland Information Sticks (25) Planner's Kit (1) |
| THIRD MORNING - Field - 2 hours | : | |
| A. Natural Stand, sawlog size | : | |
| 1. Plot study and estimate before thinning | : | |
| 2. Plot study and estimate after thinning | : | |
| B. Plan a complete woodland - group discussion | : | |
| Classroom - 2 hours | : | |
| A. Visual aids and review | : | At Training Center |
| B. Job Instruction Training - Teaching | : | J. I. T. Cards (25) |
| C. Quiz | : | Quiz (30) |
| | : | |
| | : | |
| | : | |
| Alternative program in case of inclement weather | : | "When a Fellow Needs a Forester" "Lonnie's New Crop" "Tree Counting" "Trees for Tomorrow" |



AGRONOMY

CROPLAND

I. Rotations

A. Why use rotations?

1. Effect on leaching.
2. Effect on organic matter and N.
3. Reduces drought damage.
4. Increases cold resistance of plants.
5. Increases infiltration rate.
6. Benefit to soil structure.
7. Bacterial and chemical activity.
8. Minor elements.
9. Increases crop yields.
10. Effect on insect and disease control.
11. Reduction in weed growth.

B. Examples of rotations for each land class.

1. Land Class I.
2. Land Class IIe.
3. Land Class IIIe.
4. Land Class IVe.
5. Land in subclass IIw, IIIw and IVw.
6. Land in subclass IIIs, IIIIs and IVs.

C. Pattern of the rotation.

1. Field rotation.
2. Contour strip rotation.
3. Perennial strips.



- D. Field borders.
- E. Water Disposal areas.
- F. Use of fertilizer, lime and minor elements.

GRAZING

- I. Forage needs of each animal unit.
 - A. Acres needed to produce animal unit needs.
 - B. Adapted perennials.
 - C. Adapted annuals.
 - D. Reseeding winter annuals.
- II. Management of grazing program.
 - A. Stocking
 - B. Fertilizer and lime.
 - C. Mowing
 - 1. Hay
 - 2. Silage
 - 3. Weed control
 - D. Overseeding perennial grasses.
 - E. Maintaining adapted grasses and legumes.

Training materials:

1. Kodachrome slides and charts as needed.
2. Grass and legume specimens.
3. Field letters on management of specific crops.
4. Soil samples with organic residue on surface and others with none.
5. Soil samples with plant roots intact.



FARM PONDS

Office

I. Farm Pond Purpose and Policies

- A. Livestock
- B. Irrigation
- C. Fish production
- D. Other farm uses

II. Site Selection

- A. Acres (drainage area) draining into pond.
- B. Land use in drainage area.
- C. Silt contributing areas in watershed.
- D. Desirable topography at dam site.
- E. Soil material under proposed lake.
- F. Soil material under proposed dam.
- G. Cut-off Seal, Core, Purpose.
- H. Desirable topography conditions for spillway.
- I. Borrow pit selection - embankment material.

III. Parts of the Impounding Structure

- A. Dam or embankment.
- B. Spillway - sod.
- C. Trickle drain.

IV. Planning the Dam

- A. Side slopes.
- B. Freeboard - correct definition.
- C. High water elevation.
- D. Spillway crest elevation.

V. Construction of Dam

- A. Clearing the site and disposal of debris.
- B. Cut-off seal excavation - side slopes of trench.
- C. Backfilling cut-off seal trench - placing fill material and compaction.
- D. Thickness of layers of fill material and compaction.
- E. Moisture of fill material when placed.

VI. Planning the sod spillway

- A. Run-off expected for designed storm.
- B. Spillway width and depth - table - how used.
- C. Depth of flow in spillway for the designed storm.



VII. Sod Spillway Construction

- A. Side slopes of spillway channel.
- B. Grade in spillway - table explanation.
- C. Sod to use in spillway - table - explanation.

VIII. Planning the Trickle Drain

- A. Purpose of the drain.
- B. Materials for trickle drain - pipe.
- C. Size of pipe for trickle drain.
- D. Elevation of top of standpipe below crest of spillway.

IX. Construction of the Trickle Drain

- A. Pipe must be placed under or around the fill on undisturbed soil - soil well packed - anti-seep collars.
- B. Stand pipe placed on concrete slab and braced.

X. Seeding or sodding Embankment and Spillway.

XI. Explain use of plan Form Nos. M-51-87-1 and MR-51-87-1(R).

XII. As summary, present a step by step procedure for:

- A. Making the on-site investigation and recording the data.
- B. Staking out the structure.
- C. Planning the structure.

Material Needed:

1. Handbook for each person.
2. Blackboard, crayon and eraser.
3. 4 MR forms for each person.
4. Provisions for using slides.

Field

- I. Field investigation - soils borings, under the proposed dam, under the proposed lake and borrow pits. Record findings.
- II. Run profile of center-line of dam and spillway - take necessary cross section of spillway.
- III. Plot these profiles.
- IV. Plan the dam - record notes - consider AC-ft of water stored.
- V. Plan spillway - record notes.



- VI. Plan trickle drain.
- VII. From field notes fill out MR Forms.
- VIII. Make bill of material for trickle drain.
- IX. Calculate yardage in dam.
- X. Estimate the cost of the structure.
- XI. Stake out dam and spillway.
- XII. Summary

Materials Needed:

1. Handbook for each person.
2. One (1) level and rod for each 5 people.
3. One (1) hatchet for each 5 people.
4. One (1) 100 ft. steel tape for each 5 people.
5. 100 wood stakes for each party.



BIOLOGY

- I. Agricultural concept in S.C.S. Biology ("More Fish and Game").
 - A. Fish and game produced on private lands.
 - B. Planned pollination - insect, crawfish control.
 - C. Other agency assistance to soil conservation districts.
- II. Farm plan possibilities - using series of slides.
- III. Wildlife management.
 - A. Discuss Quail, Multiflora rose, Rabbits.
 - B. Discuss Deer, Turkeys, Geese, Doves, Squirrels and Pheasants.
 - C. Discuss predators.
- IV. Wetland management - marshes and ponds.
 - A. To drain or not to drain.
 - B. Production of waterfowl, muskrats, etc.
- V. Fishpond management - study in field.
- VI. Fishpond management - study in classroom, with slides and discussion period.
- VII. Waterweek control - agricultural waters.
- VIII. Miscellaneous biology problems - insects, crawfish, bees, etc.
- IX. Summary of objectives - its value in a coordinated soil and water conservation program.

Materials Needed:

- 1. Bulletin, "More Fish and Game".
- 2. Kodachrome slides and other aids as needed.



DRAINAGE *

I. Purpose (List)

II. Types of Drainage (List)

III. Investigation & Design

A. Preliminary

1. Reconnaissance
 - a. Aerial Photo
 - b. Observations
 - c. Soils
 - d. Outlets

B. Detail Survey

1. Profile
2. Cross-sections

C. Design

1. Use of Prepared Design Charts

D. Layout based on Design.

IV. Maintenance

* Additions to Outline will be given trainees at the Training Center.



IRRIGATION*

I. Purpose

- A. Assist District Cooperators with irrigation problems.
- B. Collect field data for Design Engineer.
- C. Working knowledge of designed system and application of principles in Soil, Water, and Plant Relationships.

II. Use of Irrigation Guide

III. Field Data

- A. Water supply
- B. Fields to be irrigated.
- C. Crops to be irrigated.
- D. Elevations
- E. Labor and Labor Schedule.
- F. Sources of Power.

IV. Application of Designed System

- A. Explain plan and layout to farmer.
- B. Operations Schedule
- C. Management of Crops.

* Additions to Outline will be given trainees at the Training Center.



FARM PLANNING

I. Background and Philosophy of Farm Planning

A. History of Farm Planning

1. First with SCS
2. Now used by other agencies
3. There is no patent on farm planning
4. Must make best farm plan
5. Its a big job

B. Why the Farm Plan

1. Serves as a record
2. Fixes responsibilities
3. A direct way to bring technical knowledge to farms
4. Facilitates application of practices
5. Provides a true picture of conservation needs and management problem
6. Serves as a guide in establishing Conservation Program
7. Basis for proper coordination of enterprise (farm)
8. Basis for proper balance between livestock and feed
9. Basis for determining work load
10. Fulfills legal requirements

C. For Whom Plan is Made

1. Farmer or Rancher
2. SCS personnel in assisting farmer
3. Others

D. The Decisions in Farm Planning

1. Farm planners' responsibilities
2. Farmers' responsibilities

E. Review Administrator's Memoranda 23 and 85

1. Local adaptations - State Memoranda

F. Where Plan is Made

1. On the farm with the farmer
2. In the field
3. In the woods
4. In the pasture

II. Soundness of Farm Plan

A. Based on land capability

B. Present and future type farming

C. Farm capabilities

1. Financial
2. Interlectual

D. Good Choice of Land Treatment

1. Show capability



E. Economy of Planned Practices

1. Cost
2. Return
3. Immediate effect on farm income

F. Logic of Sequence of Application of Practices

G. Well Planned Programs Meet the Needs of the Land and Satisfy Requirements of the Farm Family

III. Pre-Planning Information

A. What Information Should Farmer and Rancher Have

1. Soil Conservation Districts
2. Soil Conservation Service
3. Land Capability classes
4. Interpreting aerial maps
5. Basic conservation practices (local)
6. Effect of soil conservation practices on
 - a. Land
 - b. Production
 - c. Farm income
7. Basic Conservation Farm Plan

B. Why this Information should be Given

1. For farmer and rancher to make intelligent decision on
 - a. Needs for conservation farm plan on his farm
 - b. Value of conservation program
2. To request assistance in developing a conservation plan
3. To make sound decisions regarding
 - a. Best use of his land
 - b. Treatment needed for protection and improvement
4. To create an appreciation for District Program
5. To facilitate and speed up
 - a. Farm planning
 - b. Application of concrete practices on the land

C. How Information Can be Given

1. Group work through
 - a. Natural neighborhood groups
 - b. Local organized groups
2. Identify group leaders - either natural or designated
 - a. By personal visit to neighborhood
 - b. State your business - Soil Conservation Program
 - c. Ask direct questions about what you want to know
3. Sell leader on Soil Conservation Program
 - a. Explain District Program
 - b. Soil Conservation Service
 - c. Benefit of a Conservation Farm Plan
 - d. Make a complete Conservation Farm Plan on leader's farm
4. Sell leader on group possibilities
 - a. Explain conservation needs of his group
 - b. How other such groups have worked

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5. Get leader to assemble group
 - a. Leader discuss benefits of Conservation Program
 - b. Needs for working together on conservation problem
 - c. Benefit of District - SCS Group Work
6. Explain basis of farm planning
 - a. Soil Conservation District - SCS
 - b. Land Capability Classes
 - c. Show local conservation practices with slides
Show sample of Conservation Farm Plan
 - d. Explain each plan is based on individual farm needs
 - e. On individual farm interest
 - f. Explain job sheets
7. Get leader to show and explain his farm plan
8. Pass out individual land capability maps
9. Have each farmer color his own map
10. Get each farmer to fill out "Before" part of Summary sheet for his farm
11. Leader collects requests for complete plan
12. Set farm planning date with each farmer
13. Follow planning schedule to completion

IV. Developing the Farm Plan

Planner Gets Self Ready

A. Personal attitude

1. Must have respect and have love for land
2. Recognize farmer has title or control of land
3. Farmers are honest
4. They are sincere
5. Reserved
6. Hard worker
7. Appreciative
8. Interesting
9. Lives close to nature
10. Reverent - high regard for deity and principles
11. Neighborly - loves to help each other
12. Reads little but sees and hears much
13. Does not take to new ideas quickly
14. Must get sold on new comers

B. Professional Attitude

1. Must know Soil Conservation Program (SCS & District)
2. Must believe in this program
3. Must be courteous
4. Radiate self-confidence
5. Have respect for other fellow's ideas
6. Be progressive
7. Accept changes and improvements
8. Know technical information about practices
 - a. Experimental data
 - b. Farmer experience



9. Must have ability to use "in Service" technical assistance available
10. Must be loyal and sincere

C. Make Good Approach

1. Be at ease - relaxed and confident
2. Put farmer at ease
3. Explain your business - Why you are there
4. Be businesslike, but friendly
5. Explain SCS-District relationship, if not previously done
6. Show farmer map of his farm
7. Explain land capability to farmer
8. Explain conservation farm plan
9. Discuss time needed to plan farm
10. Get data on summary sheet
11. Ask farmer best direction to start over farm
12. Compare areas on map with field condition

D. Planning the Farm

1. Know type farming farmer wants
2. Determine if farmer desires fit capability of his land
3. Discuss and explain changes in type farming necessary
4. Good farm planning is not a selling job
5. Good farm planning is giving farmer sound information for him to make sound decision
6. Farm planner must be able to visualize complete conservation program for farm
7. Give farmer information on applicable practices on the spot that fits into complete program for farm
8. Discuss alternate land uses
9. Cover every part of the farm
10. Give farmer information on
 - a. Land capability
 - b. Plant capability
 - c. Use of plants
 - d. Cost to farmer to apply
 - e. Method of establishing practice
 - f. Consideration of available equipment
11. Record Farmer's Decision on Conservation Plan Map in the Field with the farmer
12. Ask farmer about number acres involved
13. Delineate area with farmer's help
14. Make water disposal plan as land use is decided upon
 - a. Locate outlet for terrace
 - b. Sketch terrace pattern and direction of flow
 - c. Locate necessary diversions
15. Locate fences and farm roads (now fences)
16. Locate and discuss source of water for livestock
17. Plan each unit as part of a complete Conservation Program
18. Get farmer to help you make Conservation Plan Map
 - a. Field boundaries and acreage
 - b. Field numbers



V. Contents of a Farm Plan

- A. Land Use Capability Map - Legend and Guide Sheets
- B. Plan of Conservation Operation - What, when and where
- C. Job Sheets (Optional)
- D. Conservation Plan Map
- E. Summary Sheets and Cost and Benefit Sheet (Optional)
- F. Signature Sheet
- G. Folder for Plan

VI. Contents of Farm Plan Folder

- A. Land Use Capability Map
- B. Conservation Plan Map
- C. Appropriate Job Sheets (optional)
 - 1. In Farm Plan Folder
 - 2. To be filed in WUC Office
 - 3. Given to farmer when job to be done
- D. Signature Sheets

VII. Materials Needed to Plan Farm

- A. Conservation Survey
- B. Colored Land Use Capability Map
- C. Base Aerial Map (plain) of farm
- D. Complete set job sheets
- E. Signature Sheets
- F. Summary Sheets
- G. Scratch paper - pencil, fountain pen
- H. Special pen - Rapido-o-Graph - Ball Point Pen
(red, black and blue)
- I. Beveled edge ruler
- J. Buffering powder or sandpaper
- K. Acreage scale
- L. Clipboard

VIII. Preliminary Study of Capability Map

- A. Study general preparation and amount of land in various capability classes
- B. Observe any unusual condition
- C. Study general farm boundaries
- D. Learn adjoining owners' names
- E. Get approximate acreage in rough or unusual areas
- F. Formulate a tentative general plan for farm base on land capability and acreage



PLANT MATERIALS

SERVICE ORGANIZATION

Washington
Southeast as a whole
States specifically
Nursery facilities

PURPOSE AND OBJECTIVES

General: To make available planting materials needs -

By: Seeking
Testing
Producing
Extending

Seeking - Naturalized stands
Native ecotypes
Importations
Selection
Breeding

Testing - Nursery evaluation
Observation in rod rows
Initial production
Production

Field Trial

What are they?
How do they get to be?
How are they run?

Producing

Encouraging production
Methods - One crop or two
by product or major crop
Land preparation and Harvesting
Use of machinery
Handling and storage of unclean seed
Where is it done?
Who does it?



Extending

Demonstration planting
Technical material and information
Training of personnel in new developments

SUSTAINING PROGRAM

Review of plant problems and problem areas
Organization of testing program
Sources of seeds needed
Technical inspections
Relations with Districts
Plant identification
Plant adaptation

- - - - - 1 Hour

Showings of colored slides illustrating problems
and work in progress - - - - - 1/2 Hour

Questions and discussion - - - - - 1/2 Hour

RECORDS AND REPORTS

A. Need for complete records and accurate reports

1. Locally
2. State
3. Washington

B. Records

1. Purpose and policy
2. Current records
 - a. Cooperator Register
 - b. Summary of Agreements by Planning stages
 - c. Daily Activities Record, SCS-192
 - d. Time Distribution Spread Sheet, SCS-501
 - e. Summary of Monthly Time Record, SCS-501, SCS-501a
 - f. Record of Conservation Planning and Application, SCS-196
 - g. District Accomplishment Spread Sheet
 - h. Register of ACP Referrals and Record of Accomplishments
 - i. Operation Record, Gov't-owned Motor Equipment, AD-187
 - j. Conservation Needs Records

C. Reports

1. Purpose and policy
2. Current reports
 - a. Work Report, SCS-195
 - b. SCS Progress on ACP Work, SCS-200
 - c. Periodic Operation Report, Gov't-owned Motorized Equipment, AD-187a
 - d. Work Report, Flood Control, SCS-195b
 - e. Work Report, Group Enterprises, SCS-195a
 - f. Other reports as requested.

Equipment needed:

National Records and Reports Handbook



